

Application No. 10/084,606  
Amendment dated April 14, 2003  
Reply to Office Action of Nov. 20, 2002

**Amendments to the Specification:**

Please replace the title of the invention on page 1 with the following:

-- KIWI PLANT VARIETY NAMED 'HORTGEM RUA'--

Please add the following new paragraph after the title but before the heading of "BACKGROUND TO THE INVENTION" on line 9 of page 1.

**GENUS AND SPECIES OF PLANT CLAIMED**

*Actinidia arguta*

Please replace the paragraph beginning on page 1, line 11, with the following:

- Kiwi plants in cultivation are mainly varieties of *A. deliciosa*, particularly 'Hayward' although some *A. chinensis* and *A. arguta* varieties are grown. *A. deliciosa* and *A. chinensis* are closely related, whereas *A. arguta* is classified in a separate section of the genus. *A. deliciosa* and *A. chinensis* varieties have large fruit (~100g) with hair on the skin. The main varieties in New Zealand are 'Hayward' (*A. deliciosa*) and 'Hort16A' (*A. chinensis*). Fruit are usually cut and eaten with a spoon. *A. arguta* has small fruit (~10g) with no hair on the skin. The skin is edible so these fruit can be eaten whole, like a grape.--

Please replace the paragraph beginning on page 2, line 26, with the following:

- Photographs of fruit were taken after the normal harvest date and are depicted in ~~colours~~ colors as nearly true as is reasonably possible to make the same in a ~~colour~~ color illustration of this character. Fruit skin ~~colour~~ color may vary depending upon extent of exposure to direct sunlight.--

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Please replace the paragraph beginning on page 3, line 9, with the following rewritten paragraph:

**-- Plant**

~~Character: Medium size vine; twining habit; bearing on spurs; medium vigour.~~

~~Trunk: Moderately rough; the bark is reddish brown when mature.~~

~~Laterals: Bark reddish brown~~

~~Lenticels: Medium size; average numbers on current years growth.~~

**Plant and foliage**

This female, tetraploid, plant expresses a twining habit of medium vigour. Hairs are absent from the young shoot. Anthocyanin (red) coloration of the growing tip is near Red-purple 59A. Otherwise the young shoot is near Yellow-green 144A in color. The stem of the plant is thin; with the range of diameters observed approximately 4.0 to 12.0 mm. The stem color on the exposed side ranges between near Greyed-orange 166A and near Greyed-orange 166B, and the bark is moderately rough.  
Lamellate pith is present. The lenticels are average in number and density (approximately 15-30/cm<sup>2</sup>), and near Greyed-orange 166B in color on the upper surface and near Greyed-white 156C in color on the lower surface. Typically lenticels measure approximately 0.88 mm in length and 0.75 mm in width. Bark on the laterals is similarly colored to that on the stem and the laterals are absent of hairs. The proximal face of the bud support is perpendicular and a bud cover is present. Typically the bud support is approximately 4.73 mm in diameter; the leaf scar is deep.--

Please replace the paragraph beginning at page 3, line 19, with the following three paragraphs:

-- The mature leaf is broad ovate in shape and typically averages Leaves: Length approximately 91 mm in length, and approximately width 50 mm in width. Leaves are typically in an upward pose; upfolded to concave shape in cross section, with serrate indentations of the margin, and medium glossiness on the upper surface. Puckering or blistering of the leaf surface is absent or very weak.  
The leaf basal lobes are arranged far apart (the width between the lobes being approximately 1.56 mm). The petiole length averages within the range approximately 23-25 mm, with medium stipule size stipules. Hairs on the petiole are absent or very sparse and anthocyanin (red) coloration on the upper surface of the petiole is near Red 53A. medium time of bud burst; The color of the leaf blade is green; within the range near Green 137A and near Green 139A on the upper surface; within the range near Green 138B and near Yellow-green 146B on the lower surface. Neither surface of the leaf exhibits glaucosity.

### Inflorescence

The predominant number of flowers in the inflorescence is three. The pedicel length typically averages about 27.6 mm, with sparse, very short (averaging approximately 0.29 mm in length) hairs. There are typically five sepals, small in size. These are near Grey-brown 199D in color with red (near Red 53A) pointed tips. The diameter of the terminal or king flower when fully open is small, averaging about 27.6 mm in diameter. The mean number of petals per flower is approximately 5. The petals are arranged overlapping and are near Green-white 157A in color when fully open.

There are many stamens. The filament color is near Green 130D; the anther color varies within the range near Black 202A to near Grey 201B. The number of styles averages approximately 21.9 and

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they are arranged in a semi-erect attitude. The ovary is smooth.--

Please replace the paragraph beginning at page 3, line 23, and several paragraphs thereafter with the following:

-- ~~Flower buds: Small size.~~

~~Flowers: Medium blooming period, commencing early November and approximately 10 days in duration; predominately three flowers per inflorescence; five petals overlapping; colour green-white; generally five sepals small size, pointed, green with red tips; many stamens with white filaments and black anthers; smooth ovary.~~

~~**Fruit:** Examined at optimum. Harvest date (determined when all fruit contained black seeds and 1% of fruit on the vine were soft): 24<sup>th</sup> February in Bay of Plenty, New Zealand.~~

~~Harvest: Mid-season.~~

~~Size: Small to medium; average weight, 16.4 g (range 14-18g).~~

~~Shape: Generally oblong.~~

~~Skin: Thin, smooth; free of hairiness.~~

~~Skin Colour: (outer pericarp colour at maturity for consumption) medium green.~~

~~Flesh: Tender~~

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~~Flesh Colour: Green progressing to red (red core extending into the locule area) at maturity for consumption.~~

~~Fruit colour development: green skin and green flesh throughout fruit growth; flesh colour change typically commences approximately 109 days after anthesis. Reddening typically occurring at the end of the fruit that softened first; from the stem end down.~~

~~Flavour: Medium sweetness; 12.4 Brix at harvest (mean 7.4 Brix, mean maximum 15.8 Brix); aromatic.~~

~~Dry Matter Content: Mean 18.6% (mean maximum 20.2%)~~

~~Storage: 3-5 weeks at 0°C in air storage.~~

### **Fruit**

The fruit are overall small to medium in size, averaging approximately 16.4 g (observed range approximately 14-18 g) in weight; approximately 37.4 mm in length; approximately 22.4 mm at maximum width. The general shape of the fruit is oblong; the stylar end being strongly protruding pointed; the shoulder on the stalk end being rounded. The shape of the fruit in cross-section at the median is oblate. The peduncle averages approximately 28.2 mm in length and approximately 3.9 mm in diameter.

The fruit skin is thin, smooth, and absent of hairs. The fruit exhibit green skin and green flesh throughout the fruit growth phase; fruit skin color at harvest (fruit still hard) is within the range near Green 140A to near Green 143B. Fruit color changes are evident during the ripening period; flesh color change typically commences approximately 109 days after anthesis. Reddening typically occurring at the end of the fruit that softened first; from the stem end down. During ripening, the skin

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color is affected by the internal color changes: the color of the fruit skin at maturity for consumption being within the range near Red-purple 59A to Green 143A. The color of the outer pericarp at maturity for consumption tends to be predominately green (within the range near Green 137A to near Green 141A; the inner pericarp (locules) exhibit predominately red coloration (within the range Red-purple 59A to Green 143A). Typically the number of locules averages approximately 19.1

The fruit core is medium in diameter (averaging approximately 5.5 mm at the largest diameter), is oblate in cross-section, and is near green white in color (within the range of near Yellow-green 150D and near Green-white 157B) at harvest. There is no woody spike.

Seed is small (maximum average diameter approximately 1.3 mm; maximum average length approximately 2.5 mm). The seed color in the flesh at fruit maturity is dark brown (near Brown 200B) and brownish-orange when dry (within the range near Greyed-orange 172B and near Greyed-orange 175C).

The fruit flesh is tender at maturity for consumption and fruit sweetness (Brix level) averages approximately 12.4% (observed range approximately 7.4 to 15.8 Brix). Fruit aroma is evident. Dry matter content averages approximately 18.6% (average maximum dry matter content observed 20.2%). Typically fruit have demonstrated a storage life of 3-5 weeks at 0°C in air storage. --

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Please replace the heading and the paragraph beginning on page 4, line 28, with the following:

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## **HORTICULTURAL CHARACTERISTICS**

### **Cultivation**

Details below relate to observations Flowering commence early November in New Zealand and is approximately 10 days in duration. The time of fruit maturity for harvest (at nominated Brix level) occurs approximately February in New Zealand.

Observations made on cutting-grown plants growing at HortResearch Te Puke Research Centre, New Zealand demonstrated the following horticultural characteristics. ~~These vines were 3 years old.~~ Data from harvesting all fruit from vines in early February 1998. --

Please replace the two paragraphs beginning at the top of page 5 with the following:

-- Cropping: young vines of the new variety 'Hortgem Rua' are precocious, beginning to bear in their second year and are expected to reach full capacity at about 7 years. The storage life of ~~Hortgem Rua~~ the fruit is 3-5 weeks at 0°C, when stored in unventilated containers in air storage.

Yield and fruit size: data from harvesting all fruit from 3 year old vines in early February 1998.

Mean fruit number: 389

Mean yield: 6.1kg

Proportion of fruit <6g: 2%

Proportion of marked fruit: 38% --

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Please replace the paragraph beginning on page 5, line 14, with the following:

-- Geographical adaptation: trials indicate that the variety is well-suited to production in the warm-temperate Bay of Plenty region but also performs well in the more temperate region of Nelson, New Zealand. No pest and disease resistance has been observed. The plant hardiness range (according to the American zone classification) has not been determined. Under New Zealand conditions, the plants are grown in areas that experience some winter cold and frost, estimated to be equivalent to the minimum temperature range of zones 8 and 9.--